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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SALERNO, SARAH KATE

ART UNIT	PAPER NUMBER
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2814

NOTIFICATION DATE	DELIVERY MODE
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11/15/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No. 10/551,324	Applicant(s) GAJADHARSING ET AL.	
	Examiner Sarah K. Salerno	Art Unit 2814	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Appropriate correction is required.

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."

- (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.
- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).

- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).
- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Semiconductor transistor (DMOS) device for use as a power amplifier"

Claim Objections

3. Claims 1-11 are objected to for containing the limitation "further metal strip". The descriptive word "further" does not make clear in the context of these claims as to the metal strips placement on the semiconductor body with respect to any of the transistor features.

4. Claims 2-11 are objected to for minor informalities.

Claims 2-9 are objected to for containing in the preamble the phrase "A semiconductor" and should be replaced with "The semiconductor".

Claim 10 contains the phrase "Method of operating a semiconductor" in the preamble of the claim and should be replaced with "A Method of operating the semiconductor".

Claim 11 contains the phrase "A Method as claimed in claim 10" and should be replaced by "The Method as claimed in claim 10".

Claim 3 is unclear as to which metal layer of the two required by the claim contain the source, drain and gate electrode contacts, further metal strip and/or connecting contact. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 8 contains the limitation "said contacts" in reference to claim 1. Claim 1 contains many different contacts and it is unclear which contact or grouping of contacts listed in claim 1 claim 8 references. Examiner is interpreting the claim to mean the source, drain and gate electrode contacts.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-5 and 7-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Jos (US Patent 6,069,386).

Claim 1: Jos teaches a semiconductor device comprising a semiconductor body (1) which is provided with a field effect transistor at a surface and which comprises strongly doped source (4) and drain zones (5) and a channel region extending between the source zone and the drain zone (Col. 2 lines 50-67), with a gate electrode (9) being present which overlaps the channel region upon perpendicular projection thereon, wherein the source zone (4), the drain zone (5) and the gate electrode (9) are connected at the surface to a metal source contact (15), a drain contact (16) and a gate electrode contact (18), respectively, and wherein a further metal strip (20) is positioned between the gate electrode contact (18) and the drain contact (16), which metal strip is insulated from the semiconductor body (14), is locally electrically connected to the source strip (15), and forms a shield between the gate electrode (18) and the drain contact (16) (Col. 3 lines 45-50), characterized in that the electrical connection between the further metal strip (20) and the source contact (15) comprises a capacitor, and in that the further metal strip is provided with a connecting contact (12) for applying an

external voltage to the further metal strip (20) (Col. 3 lines 9-12, 25-27 & 51-53) (FIG. 1-3).

Claim 2: Jos teaches the capacitor is integrated in the semiconductor body (1) and is positioned within the active region beside the transistor (FIG. 2).

Claim 3: Jos teaches a semiconductor device as claimed in claim 2, characterized in that the source contact (15), the drain contact (16), the gate electrode contact (18), the further metal strip (20) and the connecting contact thereof (12), and an electrode of the capacitor (20) are formed from two separate metal layers arranged one above the other, and separated from one another by a further insulating layer (7) (FIG. 2-3).

Claim 4: Jos teaches the other electrode of the capacitor (15) is formed by the semiconductor body (1), which comprises a strongly doped substrate (2) on which a more weakly doped epitaxial layer is present (3) (FIG. 2-3).

Claim 5: Jos teaches the two electrodes of the capacitor form part of the metal layers, and the lower electrode (15) of said two electrodes is electrically connected to the semiconductor body (1), which comprises a strongly doped region (11) at that location (FIG. 2).

Claim 7: Jos teaches the field effect transistor is a MOS transistor, in which the semiconductor body (1) comprises a comparatively weakly doped region (3) of a first conductivity type (p) adjoining the surface, which region is provided with the strongly doped source (4) and drain zone (5) of the opposed, second conductivity type (n) and a weakly doped drain extension (8) between the drain zone (5) and the channel region,

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wherein the gate electrode (9) is electrically insulated from the channel region and an electrically insulating layer (14) is laid over the surface, which layer is provided with contact windows above the source zone (4), the drain zone (5) and the gate electrode (9), through which contact windows the source zone (4), the drain zone (5) and the gate electrode (9), respectively, are connected to the contacts (15, 16, 18) (FIG. 2).

Claim 8: Jos teaches the contacts (16,18, 15) are embodied as parallel metal strips positioned beside each other (FIG. 1).

Claim 9: Jos teaches another metal strip (21) is present between the further metal strip (20) and the gate electrode (18), which other strip (21) is separated from the semiconductor body (1) by an electrically insulating layer (14,7) and may or may not be provided with another connecting contact for applying another external voltage (FIG. 1-3).

Claim 10: Jos teaches a voltage is applied to the contact region of the further metal strip during operation of the device (Col. 3 lines 9-12, 25-27 & 51-53).

Claim 11: Jos teaches the applied voltage is selected independence on the power range within which the device operates (Col. 3 lines 9-12, 25-27 & 51-53).

Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jos (US Patent 6,069,386).

Claim 6: Jos teaches a semiconductor device operating the device at 2Ghz, which falls within the claimed frequency of 100 MHz and 3 GHz. Applicant states in the disclosure that capacitance of the capacitor partially depends on the desired operating frequency (page 4 lines 13-15). Since it has been held when the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. In re Aller, 220 F.2d 454, 105 USPQ 223, 235 (CCPA 1955). Applicant can rebut a prima facie case of obviousness based on ranges by showing unexpected results or the criticality of the claimed range. "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claim. In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." In re Woodruff, 919 F. 2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). See MPEP 716.02-716.02(g) for a discussion of criticality and unexpected results. There is nothing in the present application to indicate that the claimed frequency or capacitance is critical and someone

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of ordinary skill in the art would have been able to determine, through routine experimentation, the proper capacitance to operate the device successfully based on the operating frequency.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah K. Salerno whose telephone number is (571) 270-1266. The examiner can normally be reached on M-R 7:30-5:00pm every other F 7:30-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. K. S./

/Theresa T. Doan/
Primary Examiner, Art Unit 2814